



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,668	09/30/2003	Ronald P. Smith	13819US02	5018
23400	7590	04/17/2006	EXAMINER	
POSZ LAW GROUP, PLC 12040 SOUTH LAKES DRIVE SUITE 101 RESTON, VA 20191			FOX, BRYAN J	
			ART UNIT	PAPER NUMBER
			2617	

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/674,668

Applicant(s)

SMITH, RONALD P.

Examiner

Bryan J. Fox

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-37 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 15-37 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16, 17, 19-21, 22-25, 27, 28, 30-32 and 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Turcotte et al (US005754139A).

Regarding **claim 16**, Turcotte et al disclose a communication system where antenna beams are shaped responsive to demand for communication services (see column 10, lines 35-47), which reads on the claimed, "method for altering the size of a communication cell in response to bandwidth demands." As the demand for communication services changes, antenna beams are dynamically provided in response. For example, as the day in the US begins, antenna beams are initially provided along the east coast of the United States, but, as the day progresses, the antenna beams transition across the country as the time of day changes in response to demand for communication services (see column 13, lines 25-38), which reads on the claimed, "determining a first size for a first communication cell; determining a second size for said first communication cell; determining a bandwidth for at least one communication cell adjacent to said first communication cell and only for said at lease

one communication cell adjacent to said first communication cell; and altering the size of the first communication cell from said first size to said second size based at least in part on said bandwidth demand.”

Regarding **claim 17**, Turcotte et al disclose that the antenna beams are preferably shaped dynamically in response to demand for communication services (see column 13, lines 7-24), which reads on the claimed, “said altering occurs dynamically.”

Regarding **claim 19**, Turcotte discloses some of the communication cells may overlap (see figure 5), which reads on the claimed, “said second size of said first communication cell overlaps on at least one communication cell adjacent to said first communication cell.”

Regarding **claim 20**, Turcotte et al disclose a communication system where antenna beams are shaped responsive to demand for communication services (see column 10, lines 35-47), which reads on the claimed, “method for altering the size of a communication cell in response to bandwidth demands.” Preferably, receive beam controller module configures the antenna beams to provide at least one broad antenna beam covering substantially an entire satellite footprint (see column 11, lines 4-13), which reads on the claimed, “determining a service area including a plurality of communication cells.” As the demand for communication services changes, antenna beams are dynamically provided in response. For example, as the day in the US begins, antenna beams are initially provided along the east coast of the United States, but, as the day progresses, the antenna beams transition across the country as the time of day changes in response to demand for communication services (see column 13,

Art Unit: 2617

lines 25-38), which reads on the claimed, "determining a first size for a first communication cell in said service area; determining a second size for said first communication cell in said service area; determining a bandwidth for at least one communication cell adjacent to said first communication cell and only for said at least one communication cell adjacent to said first communication cell, wherein said at least one communication cell adjacent to said first communication cell includes a subset of said plurality of communication cells of said service area comprising less than all of said plurality of communication cells; and altering the size of the first communication cell from said first size to said second size based at least in part on said bandwidth demand."

Regarding **claim 21**, Turcotte et al disclose that the antenna beams are preferably shaped dynamically in response to demand for communication services (see column 13, lines 7-24), which reads on the claimed, "said altering occurs dynamically."

Regarding **claim 23**, Turcotte discloses some of the communication cells may overlap (see figure 5), which reads on the claimed, "said second size of said first communication cell overlaps on at least one communication cell adjacent to said first communication cell."

Regarding **claim 24**, Turcotte et al disclose a communication system where antenna beams are shaped responsive to demand for communication services (see column 10, lines 35-47), which reads on the claimed, "method for altering the size of a communication cell in response to bandwidth demands." As the demand for communication services changes, antenna beams are dynamically provided in

Art Unit: 2617

response. For example, as the day in the US begins, antenna beams are initially provided along the east coast of the United States, but, as the day progresses, the antenna beams transition across the country as the time of day changes in response to demand for communication services (see column 13, lines 25-38), which reads on the claimed, "determining a first size for a communication cell; determining a second size for said communication cell; determining a bandwidth for said communication cell and only for said communication cell; and altering the size of the first communication cell from said first size to said second size based at least in part on said bandwidth demand." The communication cells may overlap (see figure 5), which reads on the claimed, "said second size of said communication cell overlapping on at least one communication cell adjacent to said communication cell."

Regarding **claim 25**, Turcotte et al disclose that the antenna beams are preferably shaped dynamically in response to demand for communication services (see column 13, lines 7-24), which reads on the claimed, "said altering occurs dynamically."

Regarding **claim 27**, Turcotte et al disclose a communication system where antenna beams are shaped responsive to demand for communication services (see column 10, lines 35-47), which reads on the claimed, "communication system." As the demand for communication services changes, antenna beams are dynamically provided in response. For example, as the day in the US begins, antenna beams are initially provided along the east coast of the United States, but, as the day progresses, the antenna beams transition across the country as the time of day changes in response to demand for communication services (see column 13, lines 25-38), which reads on the

Art Unit: 2617

claimed, "a first communication cell having a first size and a second size; and at least one adjacent communication cell having a bandwidth demand, wherein said bandwidth demand is based solely on said at least one adjacent communication cell, wherein said first communication cell changes from said first size to said second size based in part on said bandwidth demand."

Regarding **claim 28**, Turcotte et al disclose that the antenna beams are preferably shaped dynamically in response to demand for communication services (see column 13, lines 7-24), which reads on the claimed, "said first communication cell dynamically changes from said first size to said second size."

Regarding **claim 30**, Turcotte discloses some of the communication cells may overlap (see figure 5), which reads on the claimed, "said second size of said first communication cell overlaps on at least one communication cell adjacent to said first communication cell."

Regarding **claim 31**, Turcotte et al disclose a communication system where antenna beams are shaped responsive to demand for communication services (see column 10, lines 35-47), which reads on the claimed, "communication system including: a service area including a plurality of communication cells." As the demand for communication services changes, antenna beams are dynamically provided in response. For example, as the day in the US begins, antenna beams are initially provided along the east coast of the United States, but, as the day progresses, the antenna beams transition across the country as the time of day changes in response to demand for communication services (see column 13, lines 25-38), which reads on the

Art Unit: 2617

claimed, "a first communication cell located in said service area, said first communication cell having a first size and a second size; and at least one adjacent communication adjacent to said first communication cell, wherein said at least one adjacent communication cell comprises a subset of said plurality of communication cells, said subset including less than all of said service area, wherein said at least one adjacent communication cell has a bandwidth demand, said bandwidth demand based solely on said at least one adjacent communication cell, wherein said first communication cell changes from said first size to said second size based in part on said bandwidth demand."

Regarding **claim 32**, Turcotte et al disclose that the antenna beams are preferably shaped dynamically in response to demand for communication services (see column 13, lines 7-24), which reads on the claimed, "said first communication cell dynamically changes from said first size to said second size."

Regarding **claim 34**, Turcotte discloses some of the communication cells may overlap (see figure 5), which reads on the claimed, "said second size of said first communication cell overlaps on at least one communication cell adjacent to said first communication cell."

Regarding **claim 35**, Turcotte et al disclose a communication system where antenna beams are shaped responsive to demand for communication services (see column 10, lines 35-47), which reads on the claimed, "communication system." As the demand for communication services changes, antenna beams are dynamically provided in response. For example, as the day in the US begins, antenna beams are initially



provided along the east coast of the United States, but, as the day progresses, the antenna beams transition across the country as the time of day changes in response to demand for communication services (see column 13, lines 25-38), which reads on the claimed, "a first communication cell having a first size and a second size; wherein said first communication cell has a bandwidth demand, said bandwidth demand based solely on said first communication cell, wherein said first communication cell changes from said first size to said second size based in part on said bandwidth demand." Some of the communication cells may overlap (see figure 5), which reads on the claimed, "said second size overlapping on at least one adjacent communication cell adjacent to said first communication cell."

Regarding **claim 36**, Turcotte et al disclose that the antenna beams are preferably shaped dynamically in response to demand for communication services (see column 13, lines 7-24), which reads on the claimed, "said first communication cell dynamically changes from said first size to said second size."

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 2617

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 18, 22, 26, 29, 33 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turcotte et al in view of Montpetit (US006366761B1).

Regarding **claim 18**, Turcotte et al fail to disclose a priority level associated with bandwidth requests.

In a similar field of endeavor, Montpetit discloses that all packets include a priority level that is used in determining delivery of the packets (see column 5, line 26 – column 6, line 41).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Turcotte et al with Montpetit to include the above use of priority in order to permit a network to offer a number of different qualities of service to an end user as suggested by Montpetit (see column 5, lines 43-61). The resultant combination reads on the claimed, “a terminal in a cell adjacent to said first communication cell makes a bandwidth request, wherein said bandwidth request has a priority level, wherein said step of altering said size of said first communication cell is based in part on said priority level.”

Regarding **claim 22**, Turcotte et al fail to disclose a priority level associated with bandwidth requests.

In a similar field of endeavor, Montpetit discloses that all packets include a priority level that is used in determining delivery of the packets (see column 5, line 26 – column 6, line 41).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Turcotte et al with Montpetit to include the above use of priority in order to permit a network to offer a number of different qualities of service to an end user as suggested by Montpetit (see column 5, lines 43-61). The resultant combination reads on the claimed, “a terminal in a communication cell adjacent to said first communication cell makes a bandwidth request, wherein said bandwidth request has a priority level, wherein said step of altering said size of said first communication cell is based in part on said priority level.”

Regarding **claim 26**, Turcotte et al fail to disclose a priority level associated with bandwidth requests.

In a similar field of endeavor, Montpetit discloses that all packets include a priority level that is used in determining delivery of the packets (see column 5, line 26 – column 6, line 41).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Turcotte et al with Montpetit to include the above use of priority in order to permit a network to offer a number of different qualities of service to an end user as suggested by Montpetit (see column 5, lines 43-61). The resultant combination reads on the claimed, “a terminal in said communication cell makes a bandwidth

request, wherein said bandwidth request has a priority level, wherein said altering step is based in part on said priority level.”

Regarding **claim 29**, Turcotte et al fail to disclose a priority level associated with bandwidth requests.

In a similar field of endeavor, Montpetit discloses that all packets include a priority level that is used in determining delivery of the packets (see column 5, line 26 – column 6, line 41).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Turcotte et al with Montpetit to include the above use of priority in order to permit a network to offer a number of different qualities of service to an end user as suggested by Montpetit (see column 5, lines 43-61). The resultant combination reads on the claimed, “a terminal in a communication cell adjacent to said first communication cell makes a bandwidth request, wherein said bandwidth request has a priority level, wherein said first communication cell changing from said first size to said second size is based in part on said priority level.”

Regarding **claim 33**, Turcotte et al fail to disclose a priority level associated with bandwidth requests.

In a similar field of endeavor, Montpetit discloses that all packets include a priority level that is used in determining delivery of the packets (see column 5, line 26 – column 6, line 41).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Turcotte et al with Montpetit to include the above use of priority

Art Unit: 2617

in order to permit a network to offer a number of different qualities of service to an end user as suggested by Montpetit (see column 5, lines 43-61). The resultant combination reads on the claimed, "a terminal in a communication cell adjacent to said first communication cell adjacent to said first communication cell makes a bandwidth request, wherein said bandwidth request has a priority level, wherein said first communication cell changing from said first size to said second size is based in part on said priority level."

Regarding **claim 37**, Turcotte et al fail to disclose a priority level associated with bandwidth requests.

In a similar field of endeavor, Montpetit discloses that all packets include a priority level that is used in determining delivery of the packets (see column 5, line 26 – column 6, line 41).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Turcotte et al with Montpetit to include the above use of priority in order to permit a network to offer a number of different qualities of service to an end user as suggested by Montpetit (see column 5, lines 43-61). The resultant combination reads on the claimed, "a terminal in a communication cell adjacent to said first communication cell makes a bandwidth request, wherein said bandwidth request has a priority level, wherein said first communication cell changing from said first size to said second size is based in part on said priority level."

***Response to Arguments***

Applicant's arguments filed January 31, 2006 have been fully considered but they are not persuasive.

The Applicant argues that Turcotte fails to disclose that a communication cell is altered from a first size to a second size for any reason. The Examiner respectfully disagrees. Turcotte et al disclose a communication system where antenna beams are shaped responsive to demand for communication services (see column 10, lines 35-47). Specifically, the antenna patterns are dynamically reconfigurable and range from broad coverage over a large region having low demand for services and small, highly concentrated coverage in a region having high demand for communication services. As the demand for communication services changes, antenna beams are dynamically provided in response. For example, as the day in the US begins, antenna beams are initially provided along the east coast of the United States, but, as the day progresses, the antenna beams transition across the country as the time of day changes in response to demand for communication services (see column 13, lines 25-38). Further, antenna beams are shaped in response to demand for communication services, for example, to approximate the contour of a geographical region having high demand for communication services next to an area having virtually no demand for communication services (see column 10, lines 35-47). Clearly the size of a communication cell changes.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan J. Fox whose telephone number is (571) 272-7908. The examiner can normally be reached on Monday through Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bryan Fox  
April 10, 2006

  
JOSEPH FEILD  
SUPERVISORY PATENT EXAMINER